



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
OREGON OPERATIONS OFFICE
805 SW Broadway, Suite 500
Portland, Oregon 97205

November 14, 2014

Mr. Shawn Rapp
Oregon Department of Environmental Quality
Northwest Region Office
2020 SW 4th Avenue, Suite 400
Portland, Oregon 97201

Dear Mr. Rapp:

The Environmental Protection Agency has completed its review of the Schnitzer ASD Yard Riverbank Feasibility Study. For your consideration and use, enclosed are technical review comments prepared by the EPA's contractor CDM Smith.

The EPA's review has identified a need to coordinate the riverbank efforts with 1) any source control measures for stormwater and groundwater ongoing or proposed at the Gunderson Facility, 2) the ongoing in-water Feasibility Study development and any future in-water remedial actions in the adjacent sediment decision unit, and 3) permitting requirements under other Federal authorities necessary to complete any riverbank work. The EPA and CDM Smith are available to meet with you at your convenience to discuss these review comments.

Please feel free to contact me at (503) 326-6554 or muza.richard@epa.gov with any questions that you might have on the EPA's review of the Riverbank Feasibility Study for the Gunderson Facility.

Sincerely,

A handwritten signature in black ink that reads "Rich Muza". The signature is written in a cursive, slightly slanted style.

Rich Muza
Remedial Project Manager

Enclosure

Review Comments Schnitzer ASD Yard Riverbank Feasibility Study
Gunderson Facility 4350 NW Front Avenue
Portland, Oregon
Dated September 30, 2014

General Comments

1. EPA understands that source control measures evaluated under this FS addresses only contamination of the Willamette River via erosion of riverbank soil. It should be assured that the source control measure selected for riverbank erosion is compatible with source control measures for the storm water and groundwater and does not preclude options to address these pathways, if necessary.
2. EPA expects that future project activities (i.e., riverbank remedial design, permitting, and other authorizations) will allow EPA to have further input on the design and implementation of the selected source control measure. Such reviews will include integration with any in-water remedial efforts at Portland Harbor Sediment Decision Unit (SDU) River Mile 9 West (RM9W) expected to occur adjacent to the Schnitzer ASD Yard Riverbank.
3. The conceptual site model (CSM) presented in Section 4 of the FS should provide additional detail regarding sources of contamination, release mechanisms, and the nature and extent of contamination at the Schnitzer ASD Yard Riverbank. For example, although historical site activity is described in Section 2, there is no explanation of the source of contamination in site soil. Similarly, the FS describes a history of fill placement but there are no maps or cross sections showing the extent of the fill and its relation to contamination at the site. Cross sections showing the depth of the fill-alluvium contact, water table, and vertical extent of contamination should be included with the CSM.
4. The FS should include a clear discussion of what the excavation depths will be for Alternatives 3 and 4 and how the depths will be determined. The FS states that the objectives of excavation in Alternatives 3 and 4 are to address hot spot soils related to upland direct contact exposure pathways (Alternative 3) and to remove soil that exceeds RAOs (Alternative 4) and the remediation cost estimates are based on excavation to a depth of 3 feet. Based on the characterization soil sample results presented in Appendix A, excavation to 3 feet would not meet these objectives in some locations; at many locations, COCs are present at concentrations exceeding the screening levels or hot spot levels at the deepest depth sampled. As a result of these findings, the total required excavation depth looks to be unknown. The FS should resolve how the excavation depths for Alternatives 3 and 4 would be determined given these data gaps and remedial cost estimates should be refined accordingly.
5. For a comparative evaluation of alternatives, the FS needs to include within one or more of the existing alternatives, a component specifically addressing the substantive provisions of applicable regulatory permits. Section 10.2 identifies that a Clean Water Act Section 404 Permit will be required but acknowledges that substantive provisions for mitigation requirements imposed by the permit were not included in the alternative scope or cost estimates. The Section 404 permit will trigger consultation for compliance with the Endangered Species Act (ESA) and Magnuson-Stevens Fishery Conservation and Management Act [MSA], as identified in the list of adopted ARARS in Appendix G. This consultation process will consider 1) effects on ESA listed salmonid species and impacts to essential fish habitat and 2) the effects of the source control

action including actions to mitigate the effects. Under ESA and MSA, the National Marine Fisheries Service (NMFS) has the responsibility for issuing the biological opinion for the action. EPA understands that for protecting essential fish habitat, NMFS has indicated a 5H:1V slope is “ideal.” Because the proposed riverbank slopes in Alternatives 2, 3, and 4 do not meet this recommended slope, the FS should document how the proposed source control measure will minimize adverse impacts to essential fish habitat and aquatic resources. This may be achieved by proper sizing of the material (e.g., use of 3-inch minus rounded cobbles) and native plants to minimize erosion potential. In addition, the FS should describe any off-site mitigation that might be required and include consideration of the costs of any such mitigation in the remedial cost estimate for each alternative. Mitigation costs for Alternatives 2, 3, and 4 are expected to be significant and may affect the ranking of alternatives.

6. To provide and evaluate a range of alternatives that will allow ODEQ to select a remedial action, the FS should include another alternative that meets the remedial objectives and ESA, MSA, and NMFS requirements for restoration of essential fish habitat. The new alternative would provide a comparative evaluation between alternatives that will require off site mitigation (Alternatives 2, 3, and 4) and an alternative with riverbank construction designed to protect fish habitat (see General Comment #5). This alternative would include bank stabilization and capping designed to provide for the restoration of essential fish habitat. Bank stabilization and capping under this alternative would require cutting back the riverbank to a shallower slope than in Alternatives 2, 3, and 4, which would have the added benefit of more removal of contaminated soil at hotspots and other areas exceeding screening levels, enhancing the protectiveness of the alternative. This alternative should also consider cap construction materials that would minimize adverse impacts to aquatic and riparian habitat, such as use of 3-inch minus river rock and native plants to minimize erosion. Additional construction costs for this alternative relative to Alternatives 2 and 3 would be partially offset by the elimination of mitigation costs (see General Comment #5).
7. Within the Lower Willamette River, FEMA, the City of Portland Office of Planning and Development Review (OPDR), and Metro administer floodway management jointly. The City of Portland and Metro have adopted a balanced cut and fill regulation applicable to areas within the FEMA 100-year floodplain and the February 1996 flood inundation area to preserve the area’s capacity for water flow and flood storage. The FS should describe the degree to which balanced cut and fill will be maintained for each alternative. Also, the 100-year floodplain should be indicated on the remedial alternative profile drawings.
8. ODEQ regulations call for a higher reasonableness of cost threshold for removal and off-site disposal (or treatment). For this reason, EPA believes that Alternative 3 (Focused Removal and Capping) should be the recommended alternative pending the evaluation of an additional alternative (i.e., bank stabilization and capping suitable for restoration of fish habitat).

Specific Comments

1. Section 1.3, Page 2, fourth paragraph – It is recommended that the balancing factor “long-term feasibility” be changed to long-term reliability.
2. Section 2.4, Page 4 – It is recommended that additional information on groundwater and surface water elevations (i.e., how they vary seasonally and with tidal cycles) be presented in this section. Groundwater and surface water elevation and changes in elevation throughout the year are relevant to excavation and cap construction.

3. Section 2.6, Page 4 – It is recommended that the area of soil data evaluated be expanded to match the maximum expected area of the source control measure and not be limited to within 100 feet of the top of the bank. For example, the recommended additional alternative to provide a riverbank stabilization and cap suitable for rehabilitation of and preserving essential fish habitat will likely require a shallower slope that will extend further shoreward. Therefore, it will be necessary to characterize the soil to plan for handling and disposal of the soil removed during grading and cap construction.
4. Section 3.3, Page 9, first paragraph – It is recommended that the FS provide a summary of discussion of how constituents of interest (COIs) were selected. From the site description and historical site use it is not clear what the source of contamination is and how the list of COIs were selected. Rational for not including volatile organic compounds and pesticides in the list of COIs should also be presented in this section.
5. Section 3.7, Page 13, second paragraph – The statement that “only arsenic, lead, and benzo(a)pyrene were detected above construction or excavation worker SLVs with the depth range of 3 to 15 feet” is not correct. Dioxans/furans may also be present at concentrations exceeded the SLVs in this depth range but it is not known because no dioxin/furan results for samples collected deeper than 3 feet are presented in the FS. The lateral extent of dioxin/furans exceeding screening levels is also not defined because dioxan/furan results are presented for only a small group of samples that were collected east of the Gantry. It is recommended that this data gap for the vertical and lateral extent of dioxan/furans be described in the FS.
6. Section 4.2, Page 14 – Please specify that metals and PCBs exceed hot spot levels for terrestrial ecological direct contact.
7. Section 4.3, Page 14, first paragraph – It is recommended that the “possible other materials” present in the core of the riverbank also be described.
8. Section 4.6, Page 15 – The draft Portland Harbor FS includes active remediation offshore of Area 3 under all remedial alternatives. As stated in the general comments above, it is recommended that all alternatives describe how offshore sediment remediation might be integrated into the proposed source control measure. Although EPA is currently revising the Portland Harbor FS, it is likely that remediation offshore of Area 3 will be proposed.
9. Section 7.1, Page 18, first paragraph – Table 1 indicates that the on-site disposal technology was not retained; however, Alternatives 2, 3, and 4 describe the placement of contaminated soil removed during slope grading in a berm at the top of the slope. Any excavated soil that is to be reused or placed under the cap will require testing to determine if site COCs are not present above RCRA hazardous waste levels, particularly lead which has been demonstrated to be present exceeding TCLP criteria in the riverbank soil. Excavated soil containing COCs at concentrations above RCRA hazardous waste levels should be taken off-site for disposal; only soil that is suitable for disposal in a RCRA Subtitle D landfill and demonstrated not to pose a risk to the river should be considered for reuse in the bank construction. It is recommended that the FS describe how cut material from grading of the slope and other excavated soil will be profiled for reuse or off-site disposal.

10. Section 8.1, Page 20, Protectiveness Evaluation – It is recommended that the FS state that Alternative 1 will not meet the source control objectives.
11. Section 8.2, Page 21, Option 1 bullet – Only clean fill, as defined in ODEQ’s solid waste regulations, should be used for filling of excavations and cap construction. The terms “select fill”, “imported fill”, and “common fill” are used throughout the alternative descriptions and in figures. It is recommended that 1) these terms be defined in this section and 2) their use in different parts of the cap and excavation backfill be explained.
12. Section 8.2, Page 21, Option 2 bullet – As stated in previous comments, reuse of any soil removed in regrading the slope or in off-site disposal of excavated soil will require sampling for waste profiling. It is recommended that sampling and analysis costs associated with waste characterization be included in the cost estimates. There will also be sampling and analysis costs associated with confirmation of on-site lead stabilization treatment in Alternatives 2, 3, and 4, which have not been included in the cost estimates. Only clean fill can be used for construction of cap and backfilling of excavations.
13. Section 8.2, Page 22, second bullet – The placement of the demarcation fabric (shown in the drawings and listed in the construction material quantities) should be described for Alternatives 2, 3, and the additional alternative for construction of riverbank slope and cap suitable for restoration of or preserving essential fish habitat. It is recommended that the geotextile be placed below the cap materials, which in the future will help determine if overlying cap has been eroded to expose the underlying soil.
14. Section 8.2, Page 22, second bullet – It is recommended that rationale be presented for extending the armored portion of the cap to only elevation 20 feet NAD88. Potential erosion from flood events and wind and vessel induced waves should also be factored into the design to prevent erosion of the upper jute mat over topsoil cap. The evaluation of long-term reliability should also note that the cap will be designed to resist wind and vessel induced waves over a range of river elevations.
15. Section 8.2, Page 23, third paragraph – The statement that “the COCs have relatively low solubility so are immobile” is not accurate. As evidenced by the TCLP results for lead, the leaching of COCs from contaminated soil in the riverbank and transport via the groundwater pathway to the Willamette River is of concern and should be addressed in the groundwater source control evaluation for Area 3.
16. Section 8.3, Page 24, first bullet. The description of Alternative 3 states that the minimum excavation depth would be 3 feet and Figure 8 indicates excavation depths ranging from 3 to 9 feet; however, the cost estimates are based on excavation to a depth of only 3 feet. The analytical results presented in Appendix A indicate that excavation to deeper than 3 feet may be required in some areas (many areas have vertical extent of hotspots undefined) to achieve the stated objective of addressing hot spots related to direct contact exposure pathways, so the basis for excavation to only 3 feet is not clear. It is recommended that a discussion of the basis for the assumed 3-foot excavation depth be provided in this section.
17. Section 8.4, Page 28, first paragraph – The term “RAO” is not defined in the FS. If RAO is meant to be the screening levels established in Section 3, then this should be stated; if RAO is

a new term to be applied in Alternative 4, then it should be defined and its relation to source control objectives and screening levels should be explained. It is recommended that these issues be addressed.

18. Section 8.4, Page 28, first bullet – The assumed excavation depth for Alternative 4 of 3 feet significantly underestimates the excavation depth needed to achieve the stated objective of removing soil exceeding the RBCs for occupational and ecological receptors, based on the data presented in Appendix A. It is recommended that the cost estimate for Alternative 4 be revised based on a more realistic assumed excavation volume.
19. Section 10.1, Page 34, first bullet – The statement that “given the relatively high cost to remove the hot spots (greater than 50 percent increase in total cost), the marginal benefit for hot spot removal is not sufficient to warrant removal of the direct contact hot spots” is misleading. Based on a comparison of the total cost for the capping alternative and the focused removal and cap alternative, the cost to remove the hot spots only increases the cost by 26 percent, not the 50 percent stated in Section 10.1 [$(\$2,200,000 \div \$1,740,000) \times 100\% = 126\%$]. It is recommended that this discrepancy be addressed.
20. Section 10.2, Page 34, first paragraph – The statement regarding omitting mitigation costs would be better placed early within the development of alternatives discussion; it is out of place in the section on permits. In addition, without the mitigation costs, the range of alternatives provided does not cover a range sufficient to evaluate and select an appropriate remedy. See General Comment 6 regarding the range of alternatives. It is recommended that these issues be addressed.
21. Section 10.3, Page 34, second paragraph – The residual risk assessment in Section 10.3 does not meet the requirement under OAR-340-122-0084(4)b that qualitative or quantitative assessment of the adequacy and reliability of any institutional or engineering controls to be used for management of treatment residuals and untreated hazardous substances remaining at the facility. It is recommended that the residual risk assessment be updated with this assessment to demonstrate that acceptable levels of risk as defined by OAR 340-122-0115 would be attained.
22. Section 10.3, Page 34, third paragraph – The testing of imported fill should include analysis for any contaminant potentially present in the fill, not just testing for COCs from the Area 3. It is recommended that this requirement be added.